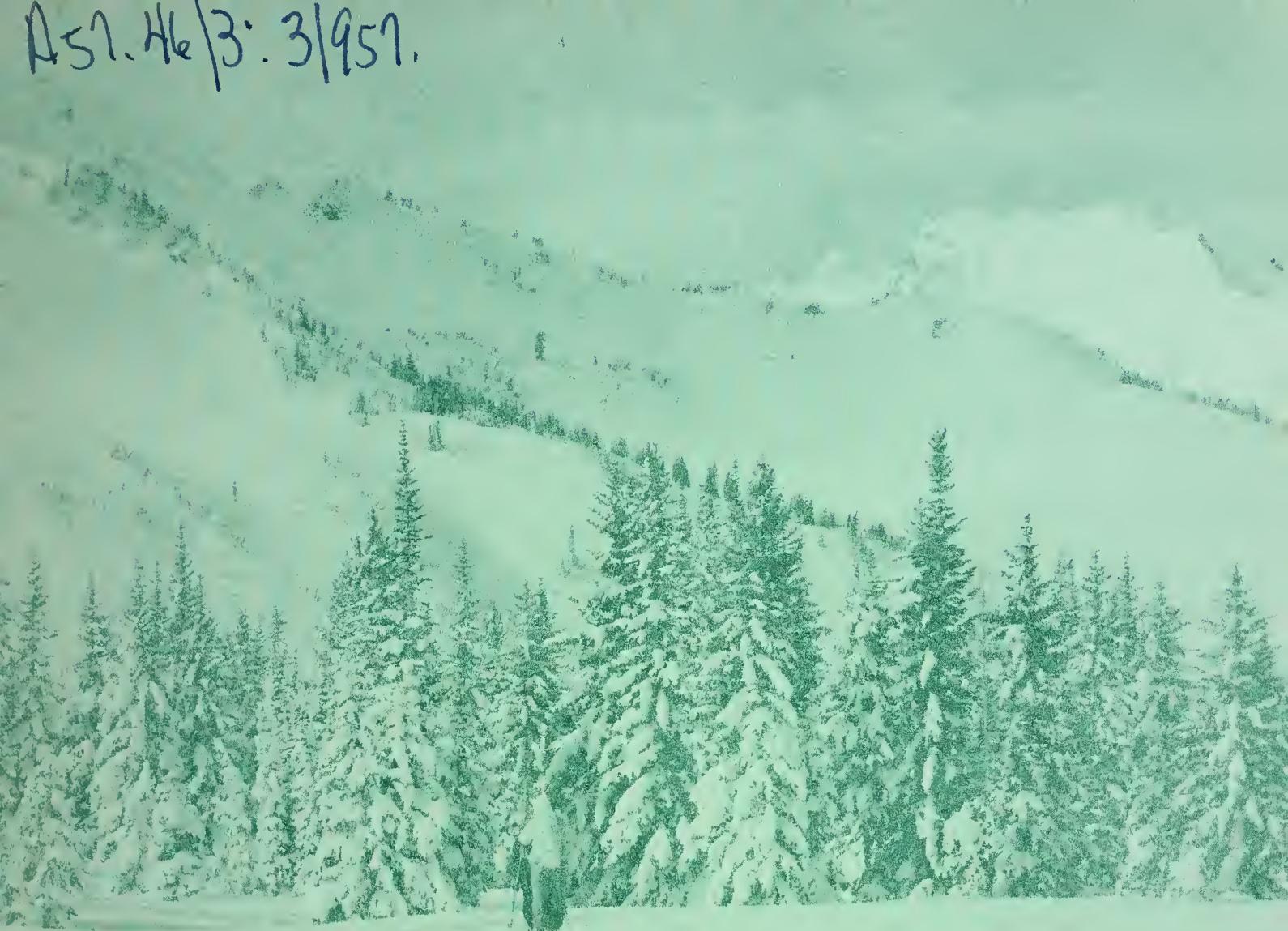


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FEDERAL - STATE COOPERATIVE  
SNOW SURVEYS and WATER SUPPLY FORECASTS  
for

**MONTANA & NORTHERN WYOMING**

UNITED STATES DEPARTMENT of AGRICULTURE...SOIL CONSERVATION SERVICE,  
and  
MONTANA AGRICULTURAL EXPERIMENT STATION

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In cooperation with the U. S. Forest Service, U. S. Geological Survey,  
National Park Service, U. S. Bureau of Reclamation, State Engineers of  
Montana and Wyoming and other Federal, State and local Organizations.

AS OF  
MAR.1, 1957



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UNITED STATES DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE

TO RECIPIENTS OF COOPERATIVE SNOW SURVEY  
AND WATER SUPPLY FORECAST REPORTS

Snow surveys in the west are conducted each year at more than 1200 snow courses. Basin and Province or State snow survey reports summarizing the results of the measurements and forecasts of seasonal runoff and water supply are issued by the Soil Conservation Service, U. S. Department of Agriculture and some of its co-operators; the Water Rights Branch of the British Columbia Department of Lands and Forests; and the California Division of Water Resources.

Copies of the various federal-state cooperative snow survey reports listed below may be secured by writing to:

Head, Water Supply Forecasting Section  
Soil Conservation Service  
209 S. W. 5th Avenue  
Portland 4, Oregon

**BASIN REPORTS:**

Colorado, Rio Grande,.. Issued monthly February through May by SCS and Colorado and Platte-Arkansas Experiment Station, Fort Collins, Colorado.\*  
River Basins

Columbia River ..... Issued monthly January through May by Soil Conservation Service, Boise, Idaho.\*

Upper Missouri ..... Issued monthly February through May by SCS and Montana Agricultural Experiment Station, Bozeman Montana.\*  
River Basin

West-Wide Water ..... Issued April 1 by Soil Conservation Service and Co-Supply Outlook  
Supply Outlook, Portland, Oregon.

**STATE REPORTS:**

Arizona ..... Issued semi-monthly January 15 through April 1 by SCS and Salt River Valley Water Users Association, Phoenix, Arizona.\*

Nevada ..... Issued monthly February through April by SCS and Nevada State Engineer, Reno, Nevada.\*

Oregon ..... Issued monthly January through May by SCS, Portland, Oregon, and Oregon Agricultural Experiment Station.\*

Utah ..... Issued monthly January through May by SCS, Salt Lake City, Utah, and State Engineer of Utah and Utah Agricultural Experiment Station.\*

Washington ..... Issued monthly February through May by SCS, Spokane, Washington, and State Department of Conservation and Development.\*

Wyoming ..... Issued monthly February through May by SCS, Casper, Wyoming, and State Engineer of Wyoming.\*

\*Special reports are issued as needed.

The British Columbia reports are issued February 1 through June 1 and may be secured from Comptroller, Water Rights Branch, Department of Lands and Forests, Parliament Building, Victoria, B. C.

The California reports are issued monthly February 1 through May 1 and may be secured from Division of Water Resources, California Department of Public Works, Sacramento, California.

The annual water supply forecasts of the Weather Bureau are available in monthly bulletins published from January through May. These bulletins entitled, "Water Supply Forecasts for the Western United States" may be obtained from River Forecast Center, Weather Bureau, 712 Federal Office Building, Kansas City 6, Missouri.

FEDERAL - STATE COOPERATIVE  
SNOW SURVEYS and WATER SUPPLY FORECASTS  
for  
MONTANA AND NORTHERN WYOMING  
(Upper Missouri and Upper Columbia River Basins)

Report Prepared by:

A. R. Codd  
Hydraulic Engineer  
Soil Conservation Service

and  
O. W. Monson  
Irrigation Engineer  
Montana Agricultural  
Experiment Station

Soil Conservation Service  
U. S. Department of Agriculture  
and  
Montana Agricultural Experiment Station  
Bozeman, Montana

Report issued by:

Truman C. Anderson  
State Conservationist  
of Montana

M. M. Kelso, Director  
Montana Agricultural  
Experiment Station



WATER SUPPLY OUTLOOK  
FOR THE STATE OF MONTANA  
as of  
MARCH 1, 1957

\* \* \* \* \*

\*

March first snow surveys indicate that the 1957  
WATER SUPPLY will be only FAIR in comparison to that of  
last year, 1956. The state-wide snow cover averages out  
to be 73 percent of last year, 132 percent of 1955, and  
98 percent of the 15-year average (1938-52). Water supply  
forecasts computed at this date, assuming normal conditions  
during March, indicate about 10 percent below average flow  
for the Jefferson River, close to average flow for the  
Madison and Gallatin Rivers, and probably slightly below  
average flow for the Missouri River. The Yellowstone River  
flow should be about 94 percent average in the upper reaches  
with a dwindling supply downstream to 85 percent at Sidney.

\*

Chinook conditions toward the latter part of February  
removed considerable snow from the lower elevations and  
hastened the ripening process of the snow at all elevations.  
Frost conditions were removed from the soils throughout the  
Yellowstone Basin.

\*

On the Columbia River Basin in Montana, this year's  
snow cover, basin wide, is only 73 percent of last year,  
126 percent of 1955, and 99 percent of the 1938-52 fifteen  
year average.

\*

\* \* \* \* \*

JEFFERSON RIVER BASIN:

The March first snow-pack on the Jefferson Basin is 74 percent of last year and 87 percent of the 9-year average on the 24 snow survey courses measured this month. It is anticipated that 73,000 acre feet of water will enter the Lima Reservoir from April through September and 68,000 acre feet between April and July. This is 10 percent less than the average volume for this reservoir.

The Big Hole River at Melrose should flow 20 percent less than the average of 745,000 acre feet or 585,000 acre feet for the April-September period. Small unmeasured streams could be expected to produce about 25 percent less water than last season.

MADISON RIVER BASIN:

The Madison River headwater areas possess the most snow of the three tributary streams to the Missouri this season. The March first snow-pack is 15 percent above average and 84 percent of last season. The Madison River should produce 2 percent more water than the average year of 726,000 acre feet. This season is 20 percent less than last year's flow.



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#### GALLATIN RIVER BASIN:

The 1957 March first snow-pack is less than the Madison. This year's snow water content is only 73 percent of last year. This would mean that the stream-flow past Gallatin Gateway would be 428,000 acre feet from April through September instead of the 499,000 acre feet that was experienced last season. This is not too bad; however, due to the early ripening of the snow-pack it is anticipated that the runoff will be early. Smaller streams of this basin should flow the same percentage as quoted.

#### MISSOURI MAIN STEM:

The Missouri Main Stem from Toston to Fort Benton should produce about 77 percent of the average flow for the April-September period. It is forecast at this time that 1,941,000 acre feet of water should enter Canyon Ferry Reservoir during that period. This forecast is 82 percent of last season's flow of 2,344,000 acre feet. The March forecast for the April-September flow into Fort Peck Reservoir is 3,798,000 acre feet or 87 percent average. The average for this period is 4,362,000 acre feet.

#### GIBSON RESERVOIR:

The April-September flow into Gibson Reservoir on the Sun River is 519,000 acre feet or 91 percent average. This figure is 79 percent of last year's flow. The April-July flow is forecast at 474,000 acre feet against an average flow of 54,000 acre feet.

#### UPPER YELLOWSTONE RIVER:

The snow-pack in Yellowstone Park on March first this year is 105 percent average for the 7 courses measured. This year's pack is 34 percent less than last year. The flow past Corwin Springs for April through September is forecast at 94 percent average and should meet all ordinary demands. Here again the runoff is likely to come early because of the apparent early ripening of the snow-pack during late February. Other comparisons of the Yellowstone River and tributary streams are shown in the forecast tables of this report.

### C O L U M B I A   R I V E R   B A S I N

#### FLATHEAD RIVER BASIN:

The March first 1957 snow-pack is 20 percent of last year but 13 percent greater than average. The forecast of the inflow to Hungry Horse Reservoir for the April-September period is 2,063,000 acre feet. It is anticipated that the combined flow of the North, Middle and South Fork will result in a seasonal flow of 5,506,000 acre feet at Columbia Falls.

#### CLARK FORK RIVER:

The March first snow cover on this basin is somewhat lighter than on other tributary basins. This year's snow-pack is only 66 percent of last year and 92 percent of average. The Bitterroot River Basin has a snow-pack of 70 percent of last year and 96 percent of average. Actual forecast figures for tributary and main stream stations are shown on the stream-flow forecast sheets of this report.



MONTANA STREAM-FLOW FORECASTS MARCH 1, 1957

The following summarized runoff forecasts are based principally on mountain snow cover and on the assumption that precipitation and temperature during March and the forecast period will be near average. Appreciable deviations from normal of precipitation and temperature during the forecast period will correspondingly modify these forecasts.

UPPER MISSOURI RIVER IN MONTANA	FORECAST RUNOFF	Seasonal Stream-Flow in Thousands of Acre Feet				15-Yr. Avg. 1938-52	
		% 15-Yr. AVG.	FORE- CAST PERIOD	Measured Runoff**			
				1955	1954		
<b>RED ROCK RIVER</b>							
Monida (near) (1)	73	90	Apr-Sept	71	58	81	
	68	90	Apr-July	66	52	76	
<b>BEAVERHEAD RIVER</b>							
Barratts (at)	158	89	Apr-Sept	119	96	177	
	120	89	Apr-July	87	71	134	
<b>BIG HOLE RIVER</b>							
Melrose (near)	595	80	Apr-Sept	592	541	745	
	550	80	Apr-July	548	497	687	
<b>JEFFERSON RIVER</b>							
Sappington (at)	833	79	Apr-Sept	793	533	1057	
	739	79	Apr-July	725	564	938	
<b>MADISON RIVER</b>							
West Yellowstone (near)	202	102	Apr-Sept	183	219	198	
	154	102	Apr-July	136	168	151	
Grayling (near) (2)	428	102	Apr-Sept	345	420	420	
(Net inflow to Hebgen Lk)	339	102	Apr-July	274	332	333	
McAllister (near) (3)	740	102	Apr-Sept	593	658	726	
	597	102	Apr-July	481	521	585	
<b>GALLATIN RIVER</b>							
Gateway (near)	428	96	Apr-Sept	350	365	445	
	369	96	Apr-July	296	310	384	
Logan (at)	444	93	Apr-Sept	384	322	478	
	380	93	Apr-July	336	264	410	
Hyalite Cr. R.S. (at) (7)	31	89	Apr-Sept	34	32	35	
	27	90	Apr-July	29	27	30	
<b>MISSOURI RIVER</b>							
Toston (at) (3)	1941	77	Apr-Sept	1730	1561	2535*	
	1642	78	Apr-July	1549	1322	2191*	
Fort Benton (at) (4)	3027	90	Apr-Sept	2986	2608	3381	
	2552	88	Apr-July	2557	2174	2874	
Virgelle (at) (4)	3751	93	Apr-Sept	3708	3395	4013	
(Loma)	3202	93	Apr-July	3232	2869	3445	
Zortman (near) (4)	4004	92	Apr-Sept	4264	3749	4357	
	3408	92	Apr-July	3698	3164	3726	
Ft. Peck Dam (be) (5)	3798	87	Apr-Sept	3734	3315	4362	
	3291	90	Apr-July	3049	2580	3666	
Williston N. D.	9663	82	Apr-Sept	9533	8964	11750	
(Inflow to Garrison R. (5)	8380	82	Apr-July	8304	7343	10228	

(1) Observed flow plus change in Storage in Lima Reservoir

(2) Observed flow plus change in Storage in Hebgen Lake

(3) Observed flow plus change in Storage in Hebgen and Ennis Lakes

(4) Observed flow plus change in Storage in Canyon Ferry

(5) Observed flow plus change in Storage in Canyon Ferry and Ft. Peck Reservoirs

(\*) Average is for less than 15 years of record in the 1938-52 period

(\*\*) Preliminary data furnished by U. S. Geological Survey subject to correction



MONTANA STREAM-FLOW FORECASTS MARCH 1, 1957

UPPER MISSOURI RIVER IN MONTANA	Seasonal Stream-Flow in Thousands of Acre Feet					
	FORECAST RUNOFF	% 15-Yr. AVG.	FORE- CAST PERIOD	Measured 1955	Runoff** 1954	15-Yr. AVG. 1938-52
SUN RIVER						
Net inflow to Gibson Reservoir	519 474	91 91	Apr-Sept Apr-July	517 468	748 691	570 521
MARIAS RIVER						
Shelby (near)	598 550	113 114	Apr-Sept Apr-July	614 561	784 715	527 482
Brinkman (near)	610 562	119 115	Apr-Sept Apr-July	638 575	767 700	514 486
MUSSELSHELL RIVER						
Delpine (near)	5.0 4.1	73 73	Apr-Sept Apr-July	3.6 2.9	3.1 2.4	6.8* 5.6*
Harlowton (at)	56.5 52.5	65 65	Apr-Sept Apr-July	23.2 18.9	26.1 20.4	87.5 80.9
Mosby (at)	92.0 86.0	56 55	Apr-Sept Apr-July	38.2 37.2	35.0 17.5	165.7 155.4
YELLOWSTONE RIVER						
Corwin Springs (at)	1760 1468	94 94	Apr-Sept Apr-July	1527 1254	2014 1686	1870 1556
Livingston (near)	2002 1653	93 93	Apr-Sept Apr-July	1621 1298	2232 1848	2143 1770
Billings (at)	3584 3077	89 89	Apr-Sept Apr-July	2958 2549	3642 3129	4025 3446
Miles City (at)	5300 4535	83 84	Apr-Sept Apr-July	4381 3816	4735 3980	6369 5421
Sidney (near)	5463 4733	82 83	Apr-Sept Apr-July	4553 4082	4765 3991	6648 5724
SHIELDS RIVER						
Wilsall (near)	31 29	77 77	Apr-Sept Apr-July	29.2 27.3	29.8 27.6	40.1 37.6
Clyde Park (at)	71 66	67 67	Apr-Sept Apr-July	72.1 67.0	65.0 60.4	105.6 98.0
CLARK FORK RIVER						
Chance (at)	551 493	95 95	Apr-Sept Apr-July	419 386	600 553	580 517
Edgar (at)	578 510	94 94	Apr-Sept Apr-July	422 384	619 561	614 539

(6) Observed flow plus change in Storage in Gibson, Willow Creek and Pishkun Res.  
 (7) Observed flow plus change in Storage in Hyalite Reservoir  
 (\*) Average is for less than 15 years of record in the 1938-52 period  
 (\*\*) Preliminary data furnished by U. S. Geological Survey subject to correction



MONTANA STREAM-FLOW FORECASTS MARCH 1, 1957

UPPER COLUMBIA RIVER IN MONTANA	FORECAST RUNOFF	Seasonal Stream-Flow in Thousands of Acre Feet				15-Yr. AVG.
		% 15-Yr. AVG.	FORE- CAST PERIOD	Measured Runoff**	1955	1954
<b>CLARK FORK RIVER</b>						
Bonner (above) (14)	621	81	Apr-Sept	739	611	771
	547	81	Apr-July	645	512	678
	452	78	Apr-June	428	428	583
Missoula (above)	1530	96	Apr-Sept	1590	1737	1602
	1366	96	Apr-July	1386	1535	1429
	1159	95	Apr-June	994	1248	1229
Missoula (below)	2821	95	Apr-Sept	3094	3309	2971
	2572	95	Apr-July	2804	2979	2700
	2253	96	Apr-June	2070	2384	2335
St. Regis (at)	3808	96	Apr-Sept	4210	4868	3952
	3454	96	Apr-July	3776	4414	3582
	3055	97	Apr-June	2835	3581	3106
Plains (near) (15)	10488	97	Apr-Sept	11038	14695	10747
	9414	96	Apr-July	10018	13274	9813
	7836	93	Apr-June	7810	10423	8434
Thompson Falls (at) (15)	11156	97	Apr-Sept	11705	15370	11545
	10281	97	Apr-July	10678	13911	10604
	8857	97	Apr-June	8322	10981	9128
Cabinet Gorge (at)	11805	98	Apr-Sept	12456E	16510	12090
	10727	97	Apr-July	11319E	14685	11056
	9103	96	Apr-June	9605E	11737	9493
<b>BLACKFOOT RIVER</b>						
Bonner (near)	909	105	Apr-Sept	851	1126	864
	819	105	Apr-July	742	1077	778
	707	105	Apr-June	566	820	674
<b>BITTERROOT RIVER</b>						
Darby (near)	521	99	Apr-Sept	540	523	525
	483	99	Apr-July	500	480	487
	422	98	Apr-June	394	398	429
At Mouth (16)	1357	99	Apr-Sept	1504	1725	1369
	1266	100	Apr-July	1418	1598	1270
	1117	101	Apr-June	1075	1396	1105
<b>FLATHEAD RIVER</b>						
Columbia Falls (near) (North Fork)	1607	93	Apr-Sept	1745	2741	1729
	1467	93	Apr-July	1576	2444	1575
	1260	93	Apr-June	1232	1874	1350
Columbia Falls (at) (17)	5506	98	Apr-Sept	5708	8267	5619
	5132	98	Apr-July	5268	7559	5214
	4498	99	Apr-June	4208	5923	4530
Polson (near) (15)	6404	98	Apr-Sept	6594	9742	6520
	5737	94	Apr-July	6112	8886	6058
	4582	88	Apr-June	4858	6884	5226

(14) Difference in observed flow, Clark Fork above Missoula & Blackfoot at Bonner

(15) Observed flow plus change in Storage in Flathead Lake & Hungry Horse Res.

(16) Difference in observed flow, Clark Fork above and below Missoula

(17) Observed flow plus change in Storage in Hungry Horse Reservoir

(\*\*) Preliminary data furnished by U. S. Geological Survey subject to correction

(E) Estimated values



MONTANA STREAM -FLOW FORECASTS MARCH 1, 1957

UPPER COLUMBIA RIVER IN MONTANA	Seasonal Stream-Flow in Thousands of Acre Feet					
	FORECAST RUNOFF	% 15-Yr. AVG.	FORE- CAST PERIOD	Measured Runoff**		15-Yr. AVG. 1938-52
MIDDLEFORK FLATHEAD RIVER				1955	1954	
West Glacier (near)	1752	105	Apr-Sept	1682	2446	1662
	1622	105	Apr-July	1551	2245	1540
	1370	104	Apr-June	1224	1743	1322
SOUTH FORK FLATHEAD RIVER						
Columbia Falls (near) (17) (Net inflow to Hungry Horse Reservoir)	2063	100	Apr-Sept	2085	2852	2058
	1959	101	Apr-July	1977	2693	1950
	1745	101	Apr-June	1630	2178	1724
SWAN RIVER						
Big Fork (near)	645	110	Apr-Sept	570	676	584
	574	111	Apr-July	499	589	518
	478	112	Apr-June	378	413	427

(17) Observed flow plus change in Storage in Hungry Horse Reservoir

(\*\*) Preliminary data furnished by U. S. Geological Survey subject to correction.



MONTANA STREAM-FLOW FORECASTS MARCH 1, 1957

		Seasonal Stream-Flow in Thousands of Acre Feet				
MISSOURI RIVER BASIN	FORECAST RUNOFF	% 15-Yr. AVG.	FORE- CAST PERIOD	Measured 1955	Runoff** 1954	15-Yr. AVG. 1938-52
YELLOWSTONE RIVER						
TRIBUTARIES IN WYOMING						
WIND RIVER						
Dubois (near)	88	86	Apr-Sept	-	115	102
Riverton (at) (8)	350	68	Apr-Sept	-	-	511
BIG HORN RIVER						
Boysen Dam (below) (9)	690	74	Apr-Sept	-	630	937
Kane (at)	930	69	Apr-Sept	-	696	1344
St. Xavier (near) (10)	1550	75	Apr-Sept	1212	1313	2066
POPO AGIE RIVER						
Little Popo Agie						
Lander (near)	38	72	Apr-Sept	-	-	53 E
North Popo Agie						
Milford (near)	71	82	Apr-Sept	-	-	87 E
Popo Agie						
Riverton (near)	250	72	Apr-Sept	-	-	347 E
SHOSHONE RIVER						
Buffalo Bill Dam (bl) (12)	740	95	Apr-Sept	-	-	780
TONGUE RIVER						
Decker(nr) Montana (13)	136	50	Apr-Sept	218	111	272*

(8 ) Observed flow plus Storage in Bull Lake and Pilot Butte Reservoirs

(9 ) Observed flow plus Storage in Boysen Reservoir

(10) Observed flow plus Storage in Boysen

(12) Observed flow plus Storage in Buffalo Bill Reservoir

(13) Observed flow plus Storage in Tongue Reservoir

(\*\*) Preliminary data furnished by U. S. Geological Survey subject to revision

(\*) Average is for less than 15 years of record in the 1938-52 period

(E ) Estimated values



# INDEX TO MONTANA & NORTHERN WYOMING SNOW COURSES

Drainage Basin and Course Name	Montana Number	Location				Record Began	Measuring Dates	Measured By	Drainage Basin and Course Name	Montana Number	Location				Record Began	Measuring Dates	Measured By	Drainage Basin and Course Name	Montana Number	Location				Record Began	Measuring Dates	Measured By													
		Elev.	Sec. Lat.	Twp.	Range Long.						Elev.	Sec.	Lat.	Twp.	Range Long.					Elev.	Sec.	Lat.	Twp.	Range Long.															
<b>JEFFERSON RIVER</b>																																							
MISSOURI RIVER DRAINAGE																																							
(ROCK-BEAVERHEAD)																																							
Lakeview Ridge	11E3	7400	27	14S	2W	1948	3,4,5	10	Camp Senia	901	7890	2	8S	18E	1937	4	1	Horse Trail Div.	7E19	9200	29	55N	90W	1956	2,3,4,5	1													
Lakeview Canyon	11E4	6930	26	14S	2W	1948	3,4,5	10	Canyon	10E3	7750	44°-44'	110°-30'	1938	1,2,3,4,5	6	Lake Oeneva	7E16	9000	7	52N	86W	1956	2,3,4,5	1														
Limekin	12E2	6950	5	15S	9W	1948	3,4	1	Cooke City	10D7	7400	25	9S	11E	1937	1,2,3,4,5	6	North Tongue	7E15	8800	17	55N	89W	1956	2,3,4,5	1													
White Pine Ridge	12E1	8850	18	14S	9W	1948	3,4	1	Crevice Mt.	10D5	8400	22	9S	9E	1935	3,4	2	Sibley Lake	7E11	8000	10	55N	88W	1956	2,3,4,5	1													
(HORSE PRAIRIE)									Independence	10D6	8000	22	7S	12E	1941	3,4	1	Sucker Creek	7E12	9000	19	55N	87W	1956	2,3,4,5	1													
Bloody Dick	13D10	7600	12	8S	16W	1948	3,4	1	Lake Camp	10E4	7850	44°-34'	110°-24'	1937	1,2,3,4,5	6	Steamboat Point	7E10	7500	32	55N	87W	1956	2,3,4,5	1														
Gold Stone	13D9	8100	11	8S	16W	1948	3,4	1	Lupine Creek	10E1	7300	44°-54'	110°-37'	1938	1,2,3,4,5	6	Wood Rock O.S.	7E13	8500	3	54N	88W	1956	2,3,4,5	1														
(BIG HOLE)									Lodgepole	9E1	8200	32	56N	106W	1940	2,3,4,5	1,4	(POWDER RIVER) Wyoming																					
(SHIELDS RIVER)									Porcupine	10C3	6500	10	4N	108	1938	3,4	1	Crazy Woman	6E2	8200	6	47N	81W	1956	2,3,4,5	1													
(LOWER YELLOWSTONE)									Dinwoodie	9F10	10000	21	39N	105W	1948	2,3,4,5	1	Muddy Creek G.S.	6E1	7800	2	46N	81W	1956	2,3,4,5	1													
(WIND RIVER) Wyoming									Dry Creek	9F9	9500	34	4N	6W	1948	2,3,4,5	1	Munkers Pass	7E8	9700	11	48N	85W	1950	2,3,4,5	1													
(WISERIVER)									DuNoir	9F6	8750	27	42N	108W	1940	2,3,4,5	1	North Powder #2	7E36	8300	20	47N	85W	1956	2,3,4,5	1													
(RUBY RIVER)									East Fork	9F13	9200	23	44N	108W	1956	2,3,4,5	1	Onion Gulch	7E27	8100	31	46N	85W	1956	2,3,4,5	1													
(POPO AQIS RIVER) Wyoming									Geyser Creek	9F7	6500	12	44N	108W	1948	2,3,4,5	1	Soldier Park	7E5	8700	36	51N	85W	1950	2,3,4,5	1													
(WISERIVER)									Little Warm	9F8	9500	24	44N	108W	1948	2,3,4,5	1	Sour Dough	7E6	8500	17	49N	84W	1936	2,3,4,5	1													
(POPO AQIS RIVER) Wyoming									(POPO AQIS RIVER) Wyoming								(COLUMBIA RIVER BASIN)																						
Cottonwood	11E2	5900	24	10S	3W	1948	3,4	1	Blue Ridge	802	9500	23	31N	101W	1939	2,3,4,5	1	KOOTENAI RIVER																					
Cottonwood (Upper)	11E1	8400	30	10S	2W	1948	3,4	1	Bruce's Camp	805	6500	24	32N	101W	1955	2,3,4	1	Baree Mountain	15B1	6000	1	25N	31W	1937	4,5,5	2													
Flashlight	12D3	6950	22	8S	7W	1945	3,4,5	1	Hobb's Park	903	10000	22	28	3W	1948	2,3,4,5	1	Blue Bird Basin	15A1	6800	24	37N	26W	1937	4,5,5	1,2													
Tobacco Root	12D2	6900	13	4S	4W	1948	3,4	1	Mosquito Park R.S.	904	9500	23	25	3W	1940	2,3,4,5	1	Red Mountain	15A1	6000	4	36N	29W	1937	3,4,5,5	1,2													
Vigilante	11D1	6125	28	9S	3W	1948	3,4	1	Sawmill Glade	801	8500	3	31N	101W	1939	2,3,4,5	1	Weasel Divide	15A7	5450	8	37N	24W	1955	4,5,5	1,2													
MADISON RIVER									South Pass	803	9000	13	30N	101W	1939	2,3,4,5	1	FLATHEAD RIVER																					
Hebgen	11E5	6550	22	11S	3E	1934	1,2,3,4,5	3	St. Lawrence	9F11	9000	26	1N	4W	1940	2,3,4,5	1	Basin Creek	13B14	5000	11	19N	12W	1951	2,3,4,5	2													
West Yellowstone	11E7	6700	34	13S	5E	1934	1,2,3,4,5	3	Trout Creek	9G2	8400	5	2S	2W	1948	2,3,4,5	1	Big Creek	13B3	6750	6&7	22N	18W	1911	3,4,5	5													
Norris Basin	10E2	7500	44°-42'			110°-42'	1935	3,4	Beavers Mill	9F2	8900	6	43N	102W	1948	2,3,4,5	1	Brush Creek	13A4	5000	13	30N	26W	1937	3,4,5	1,2													
GALLATIN RIVER									Owl Creek	8F1	8700	36	43N	101W	1948	2,3,4,5	1	Cattle Queen	13A1	4700	7	35N	17W	1939	3,4,5	6													
(DEVIL'S SLIDE)	10D4	8100	14	5S	6E	1935	2,3,4,5	2,1	Timber Creek #1	9E2	8800	25-	47N	103W	1948	2,3,4,5	1	Desert Mountain	13A2	5600	24	31N	19W	1937	1,2,3,4,5</td														

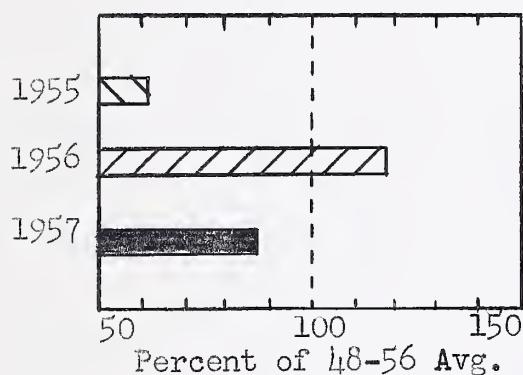


SUMMARY OF SNOW SURVEY DATA BY TRIBUTARY WATERSHEDS MARCH 1, 1957

Missouri Basin

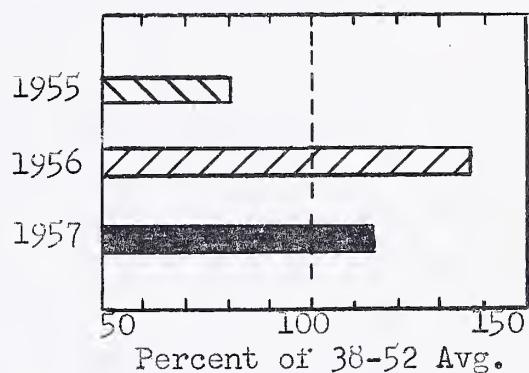
JEFFERSON RIVER

24 Courses



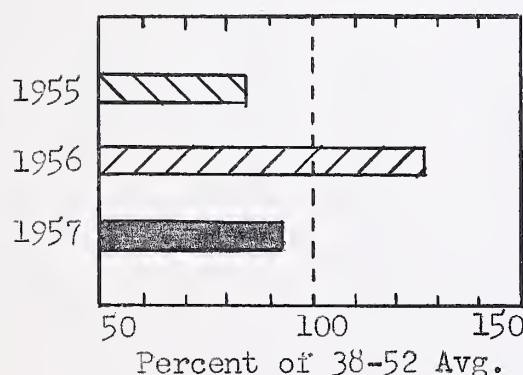
MADISON RIVER

5 Courses



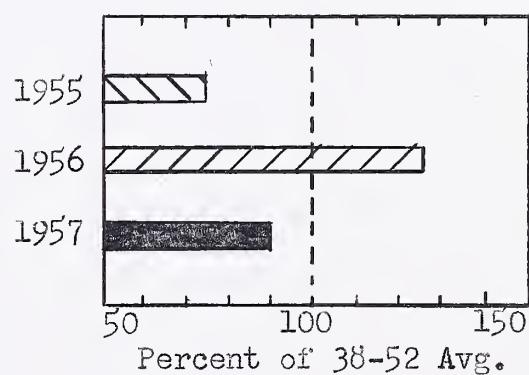
GALLATIN RIVER

4 Courses



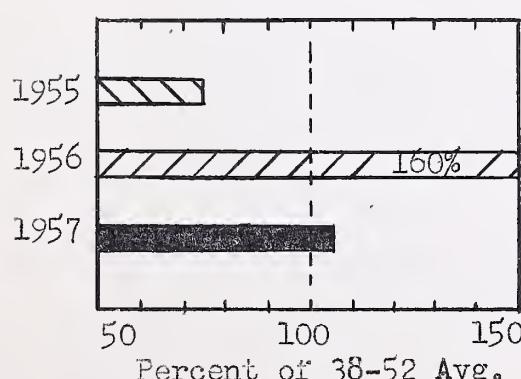
MISSOURI MAIN STEM

10 Courses



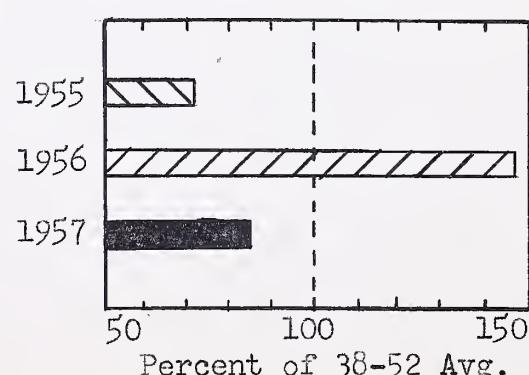
UPPER YELLOWSTONE

7 Courses



LOWER YELLOWSTONE

8 Courses





MONTANA SNOW SURVEYS - MARCH 1, 1957

MISSOURI BASIN DRAINAGE BASIN AND SNOW COURSE	No.	Elev.	Date of Survey	SNOW COVER MEASUREMENTS				Total Years of Record			
				1957		Past Record					
				Snow Depth (In.)	Water Content (In.)	Water Content					
						1956	1955	15-Year Average 1938-52			
<u>JEFFERSON RIVER</u>											
(Rock-Beaverhead)											
Lakeview Ridge	11E3	7400	2/28	36	8.0	6.9	5.6	8.4*	9		
Lakeview Canyon	11E4	6930	2/28	41	9.7	7.8	7.2	10.4*	9		
Limekiln	12E2	6950	2/12	5	0.7	1.1	1.0	1.3*	9		
White Pine Rdg	12E1	8850	2/12	17	2.4	4.5	2.8	4.6*	9		
**Kilgore	11E12	6200	3/2	31	9.2	8.3	-	9.9	17		
**Camp Creek	12E3	6800	3/1	29	8.1	8.6	5.6	9.2	21		
(Horse Prairie)											
Bloody Dick	13D10	7600	2/17	37	10.0	13.8	4.8	10.7*	9		
Goldstone	13D9	8100	2/17	44	12.0	18.0	6.9	13.2*	9		
Lemhi Pass	13E1	7400	2/14	26	5.7	10.5	4.4	7.6*	9		
Terrell Creek	13D12	6650	2/13	20	4.0	6.4	2.0	4.0*	9		
Trail Creek	13E2	7090	2/14	27	5.9	9.8	4.1	6.7*	9		
Selway Junction	13D11	6800	2/13	30	5.7	10.4	3.9	7.0*	9		
(Big Hole)											
Big Hole Pass	13D3	7440	2/18	45	12.6	18.2	10.1	15.4*	9		
Big Hole Pass Be	13D4	6900	2/18	42	11.6	16.2	8.2	13.2*	9		
East Boundary	13D5	6700	2/18	25	6.0	8.4	4.2	7.2*	9		
Gibbons Pass	13D2	7100	2/28	68	20.9	27.2	14.2	20.4	23		
Jahne Creek	13D8	7340	2/17	38	10.2	11.8	4.3	9.6*	9		
Miner Forks	13D6	7300	2/16	37	10.3	14.8	6.5	10.7*	9		
Miner Lake	13D7	6720	2/16	30	5.6	9.9	3.4	7.2*	12		
**Moose Creek	13D16	6200	2/27	49	13.9	19.4	11.3	14.5	19		
(Wise River)											
Anderson Meadow	13D14	7000	2/19	24	5.3	9.3	4.5	7.6*	9		
Elk Horn	13D15	8450	2/28	34	7.9	12.8	7.6	8.1	22		
Wise River	13D13	6300	2/19	20	4.1	5.4	2.8	5.0*	9		
(Ruby River)											
Flashlight	12D3	6950	2/15	13	2.4	4.5	3.7	4.1*	12		

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MONTANA SNOW SURVEYS - MARCH 1, 1957

MISSOURI BASIN DRAINAGE BASIN AND SNOW COURSE	No.	Elev.	Date of Survey	SNOW COVER MEASUREMENTS				Total Years of Record	
				1957 Snow Depth (In.)	Water Content (In.)	Past Record Water Content			
				1956	1955	15-Year Average 1938-52			
<u>MADISON RIVER</u>									
Hebgen	11E5	6550	2/26	44	12.3	13.5	8.3	11.2	
Norris Basin	10E2	7500	3/1	39	9.1	12.5	7.2	8.2*	
21-Mile	11E6	7150	2/27	60	17.5	22.5	11.1	14.5	
W. Yellowstone	11E7	6700	2/26	41	11.8	14.8	7.3	10.4	
**Big Springs	11E9	6500	2/26	63	22.0	23.8	16.1	18.3	
**Island Park	11E10	3600	2/25	52	15.4	19.8	12.4	14.6	
**Valley View	11E8	6500	2/25	51	13.6	17.1	8.3	13.6*	
<u>GALLATIN RIVER</u>									
Devil's Slide	10D4	8100	2/28	52	14.2	18.6	13.3	16.0	
Hood Meadow	10D3	6600	3/1	25	6.2	7.6	6.7	7.1	
Mystic Lake	10D2	6600	2/26	19	3.5	7.7	6.2	6.7	
New World	10D1	6700	2/26	22	5.6	10.0	8.0	8.7*	
21-Mile	11E6	7150	2/27	60	17.5	22.5	11.1	14.5	
<u>MISSOURI RIVER MAIN STEM</u>									
Chessman Res.	12C5	6200	2/28	8	2.1	5.4	2.7	4.3	
Crystal Lake	9C1	6100	3/2	29	7.6	10.2	9.5	10.4*	
Grasshopper	10C2	7000	3/1	11	2.6	6.6	1.8	4.3	
Kings Hill	10C1	7950	3/1	37	10.0	9.6	8.8	11.3	
Picnic Grounds	13C6	6500	3/1	14	3.9	5.6	2.2	4.2*	
Pipestone Pass	12D1	7200	3/1	16	3.6	5.9	3.2	4.2	
Stemple Pass	12C1	6900	3/4	32	8.1	10.4	5.5	8.4	
Tenmile, Lower	12C2	6250	3/3	18	4.9	7.5	5.0	5.9	
Tenmile, Middle	12C3	6800	3/2	28	6.8	7.5	7.4	8.6	
Tenmile, Upper	12C4	8000	3/2	33	9.9	14.0	9.7	11.2	
(Teton River)									
Fright Creek	12A1	6000	2/27	44	13.8	15.7	7.1	15.7*	
Waldron Creek	12B2	5600	2/27	22	5.4	8.0	3.6	7.1*	
West Fork	12B1	6000	2/26	39	11.8	14.7	9.8	14.9*	
(Sun River)									
Benchmark	12B8	5500	2/28	22	5.8	-	6.5	9.3*	
Cabin Creek	12B6	5400	2/27	22	5.8	8.1	4.1	7.0*	
5-Bull	12B9	5600	2/28	16	4.2	-	4.9	7.3*	
Gates Park	12B5	5300	2/28	31	8.8	11.7	5.4	10.7*	
Goat Mountain	12B7	7000	2/25	36	9.4	13.2	7.2	8.8	
Wrong Ridge	12B3	6800	3/1	41	13.0	25.5	14.1	21.8*	
Wrong Creek	12B4	5700	3/2	56	18.6	16.2	11.2	15.7*	

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\*\*Adjacent Basin.



MONTANA SNOW SURVEYS - MARCH 1, 1957

MISSOURI BASIN DRAINAGE BASIN AND SNOW COURSE	No.	Elev.	Date of Survey	SNOW COVER MEASUREMENTS					Total Years of Record	
				1957 Snow Depth (In.)	Water Content (In.)	Past Record Water Content				
				1956	1955	15-Year Average 1938-52				
<u>MISSOURI RIVER MAIN STEM (Cont'd)</u>										
(Marias River)										
Marias Pass (Milk River)	13A5	5250	2/27	57	17.2	20.8	11.2	15.6	23	
Rocky Boy (Musselshell)	9A1	5250	3/1	22	5.8	3.6	4.7	4.8*	16	
Grasshopper	10C2	7000	3/1	11	2.6	6.6	1.8	4.3	19	
<u>UPPER YELLOWSTONE</u>										
Camp Senia	9D1	7890	3/4	15	3.1	-	-	4.8*	12	
Canyon	10E3	7750	2/28	50	14.8	18.7	10.2	10.8*	18	
Cooke City	10D7	7400	3/2	31	7.7	9.6	4.4	7.0	20	
Crevice Mt.	10D5	8400	2/28	26	5.3	7.9	5.2	8.3*	18	
Lake Camp - new		7850	1/28	34	6.8	-	-	-		
Lake Camp - old	10E4	7850	1/28	37	7.4	17.0	5.3	8.8*	20	
Lodgepole, Wyo.	9E1	8200				14.2	-	-		
Lupine	10E1	7300	2/28	38	9.8	13.4	9.3	8.8	17	
**Astor Creek	10E8	7700	2/27	97	29.8	44.5	20.1	24.5	38	
**Tom Thumb Summit	10E7	7900	2/27	74	19.8	33.1	13.0	22.8*	9	
(Shields River)										
Porcupine	10C3	6500	3/1	19	4.8	7.6	4.9	5.3	19	

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\*\*Adjacent Basin.



MONTANA SNOW SURVEYS - MARCH 1, 1957

MISSOURI BASIN DRAINAGE BASIN AND SNOW COURSE	No.	Elev.	Date of Survey	SNOW COVER MEASUREMENTS					Total Years of Record	
				1957 Snow Depth (In.)	Water Content (In.)	Past Record Water Content				
						1956	1955	15-Year Average 1938-52		
<b>LOWER YELLOWSTONE (Wind River)</b>										
Big Warm	9F12	8800	2/19	29	6.7	11.3	4.1		2	
Brooks Lake	10F8	9200	2/19	54	17.5	28.1	14.9	21.3#	19	
Burroughs Creek	9F4	8800	2/21	38	9.2	18.1	7.3	14.6#	8	
Dinwoodie	9F10	10000	2/22	35	10.0	13.3	5.0	11.9#	8	
Dry Creek	9F9	9500	2/22	20	4.0	8.0	7.0	6.3#	8	
DuNoir	9F6	8750	2/19	22	5.2	9.5	3.3	8.0*	16	
Geyser Creek	9F7	8500	2/20	24	5.2	9.1	3.4	7.9#	8	
Little Warm	9F8	9500	2/20	46	11.7	20.1	7.3	15.7#	8	
Sheridan R.S.#2	9F14	7500	2/19	23	5.6	9.4	3.3	-	2	
T-Cross Ranch	9F3	8000	2/21	22	5.2	8.9	2.9	3.7*	16	
Togwotee Pass	10F9	9600	2/28	73	22.6	36.2	19.4	27.6#	7	
<b>LOWER YELLOWSTONE (Popo Agie River)</b>										
Blue Ridge	8G2	9500	2/26	30	7.1	16.0	-	9.9*	16	
Hobbs Park	9G3	10000	2/24	47	13.1	20.8	10.3	21.4#	8	
Mosquito Park R.S.	9G4	9500	2/24	20	4.4	9.1	5.4	7.4*	13	
Sawmill Glade	8G1	8500	2/26	18	3.9	8.5	7.2	6.0*	17	
South Pass	8G3	9000	2/26	42	10.8	18.3	11.7	11.6	17	
St. Lawrence R.S.	9F11	9000	2/23	20	4.0	9.8	3.7	6.4*	13	
Trout Creek	9G2	8400	2/23	14	3.5	5.6	4.5	5.6#	8	
<b>LOWER YELLOWSTONE (Owl Creek)</b>										
Beavers Mill	9F2	8900	2/25	19	3.5	-	5.7	7.3#	8	
Owl Creek	8F1	8700	2/25	13	2.9	5.6	2.6	4.9#	8	
<b>LOWER YELLOWSTONE (Greybull River)</b>										
Timber Creek #2	9E3	8800	2/26	10	2.6	2.9	2.0	-	2	
Wood River #2	9F15	8000	2/26	19	4.1	5.2	2.8	3.7#	6	
<b>LOWER YELLOWSTONE (Shoshone River)</b>										
East Entrance	10E6	7000	2/28	41	10.9	15.2	7.1	11.6#	8	
Sylvan Pass	10E5	7100	2/28	46	12.7	18.9	7.0	13.5*	14	

\*Average is for less than 15 years of record in the 1938-52 period.

#Average for period of record.



MONTANA SNOW SURVEYS - MARCH 1, 1957

MISSOURI BASIN DRAINAGE BASIN AND SNOW COURSE	No.	Elev.	Date of Survey	SNOW COVER MEASUREMENTS					Total Years of Record	
				1957 Snow Depth (in.)	Water Content (in.)	Past Record				
						1956	1955	15-Year Average 1938-52		
<b>LOWER YELLOWSTONE (Nowood Creek)</b>										
Cold Springs Camp	7E25	8700	3/2	19	3.8	7.0	-	-	1	
Medicine Lodge Lks	7E24	9500	3/2	29	7.1	11.4	-	-	1	
Munkers Pass (Muddy)	7E8	9700	3/4	31	6.5	9.7	-	-	2	
Onion Gulch	7E27	8100	3/4	34	7.0	9.9	-	-	1	
Tensleep Lake	7E26	9075	3/1	30	7.4	11.0	-	-	1	
Tensleep R. S.	7E7	8300	3/1	23	5.1	7.9	5.7	-	2	
<b>LOWER YELLOWSTONE (Shell Creek)</b>										
Bald Mountain	7E21	9600	2/23	48	13.0	16.8	-	-	1	
Beaver-Tongue Div.	7E20	9200	2/23	44	12.0	16.7	-	-	1	
Bone-Spring Div.	7E18	9200	2/25	42	11.7	14.8	-	-	1	
Granite Creek Camp	7E22	7800	3/3	12	3.0	5.2	-	-	1	
Granite Pass	7E17	8950	2/25	41	12.1	14.6	-	-	1	
Ranger Creek	7E4	8800	3/3	27	6.1	9.4	-	-	1	
<b>LOWER YELLOWSTONE (Porcupine Cr.)</b>										
Five Springs Falls	7E31	7500	2/28	15	3.2	4.4	-	-	1	
Medicine Wheel	7E30	9000	2/24	41	10.5	12.4	-	-	1	
<b>LOWER YELLOWSTONE (Tongue River)</b>										
Big Goose #1	7E2	7700	3/2	10	3.7	4.0	4.0	3.5#	6	
Big Goose #2	7E32	7700	3/2	20	4.5	7.6	-	-	1	
Burgess R.S. #1	7E1	7900	2/24	19	3.9	5.1	13.0	-	6	
Burgess R.S. #2	7E33	7900	2/24	18	4.1	6.6	-	-	1	
Dome Lake #1	7E3	8800	3/3	18	3.8	7.8	-	-	6	
Gloom Creek	7E14	9300	2/26	31	7.6	11.0	-	-	1	
North Tongue	7E15	8800	2/24	21	4.5	10.6	-	-	1	
Sibley Lake	7E11	8000	2/27	25	5.7	8.3	-	-	1	
Sucker Creek	7E12	9000	2/26	30	7.0	9.7	-	-	1	
Steamboat Point	7E10	7500	2/27	14	3.8	6.6	-	-	1	
Wood Rock G.S.	7E13	8500	2/26	30	7.2	9.6	-	-	1	
<b>LOWER YELLOWSTONE (Powder River)</b>										
Muddy Creek G.S.	7E28	7800	3/4	11	2.0	5.2	-	-	1	
Soldier Park	7E5	8700	3/5	13	1.7	8.4	-	4.2#	5	
Sour Dough	7E6	8500	3/5	27	4.1	9.6	-	-	1	

#Average for period of record.

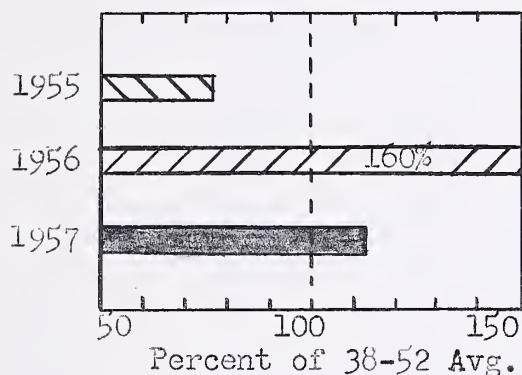


SUMMARY OF SNOW SURVEY DATA BY TRIBUTARY WATERSHEDS MARCH 1, 1957

Columbia Basin

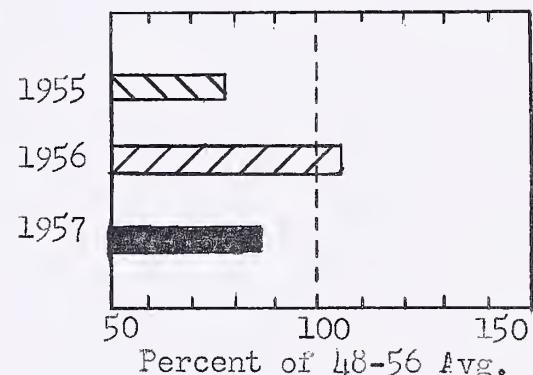
KOOTENAI RIVER

4 Courses



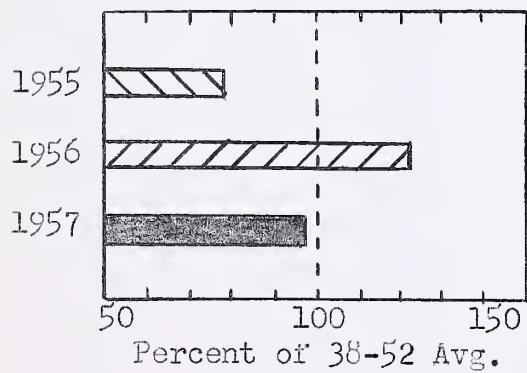
SO. FK. FLATHEAD

9 Courses



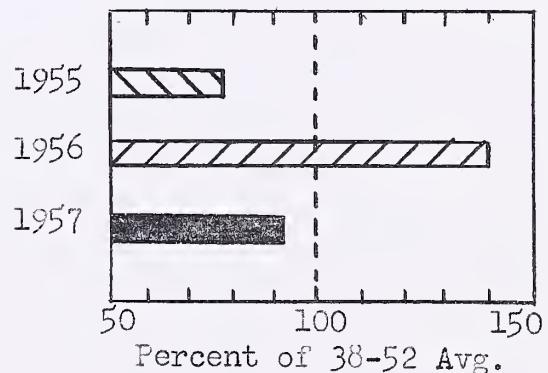
FLATHEAD

5 Courses



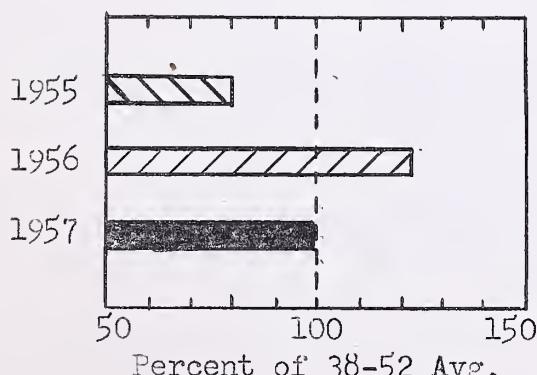
UPPER CLARK FORK

11 Courses



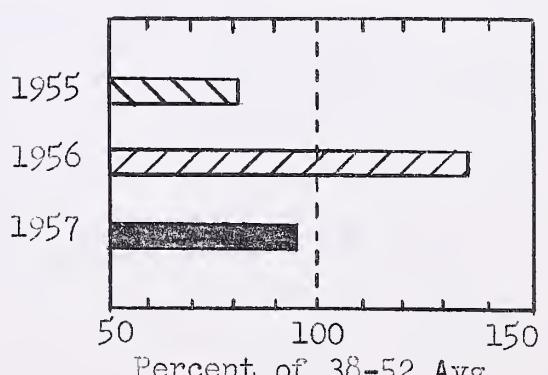
BLACKFOOT

3 Courses



BITTERROOT

5 Courses





MONTANA SNOW SURVEYS - MARCH 1, 1957

COLUMBIA BASIN DRAINAGE BASIN AND SNOW COURSE	No.	Elev.	Date of Survey	SNOW COVER MEASUREMENTS					Total Years of Record	
				1957 Snow Depth (In.)	Water Content (In.)	Past Record Water Content				
				1956	1955	15-Year Average	1938-52			
<b>KOOTENAI RIVER (above Libby, Montana)</b>										
Brush Creek	14A4	5000	3/6	44	11.7	15.6	8.4	12.8*	10	
Fernie	Can	3500	2/27	32	8.4	5.0	7.7	7.6*	17	
Kimberley	Can	3800	2/27	30	7.1	11.8	4.9	6.5*	16	
Marble Canyon	Can	5000	2/28	55	15.5	13.1	8.2	14.7*	10	
Nelson Creek	Can	3050	2/27	48	15.7	21.8	9.6	13.2*	17	
New Fernie	Can	4100	2/27	47	13.8	5.2	11.6	14.1*	6	
Old Glory	Can	7000	2/27	68	21.3					
Red Mt. Montana	15A1	6000	3/1	59	17.0	22.0	10.8	15.6	20	
Sinclair Pass	Can	4500	2/28	29	6.1	6.5	4.1	6.1*	10	
Sullivan Mine	Can	5100	2/28	47	12.3	17.5	7.5	13.2*	11	
Upper Elk River	Can	4400	3/28	34	8.0	12.3	5.7	8.5*	9	
<b>FLATHEAD RIVER</b>										
Basin Creek	13B14	5000	2/27	24	5.7	10.6	6.3	10.1*	6	
Big Creek	13B3	6750	2/27	92	34.7	42.7	28.4	34.9*	16	
Brush Creek	14A4	5000	3/6	44	11.7	15.6	8.4	12.8*	10	
Cattle Queen	13A1	4700	3/3	78	25.6	32.2	21.5	30.1*	12	
Coyote Hill	13B10	4200	3/1	31	9.4	11.2	7.2	9.8*	10	
Desert Mountain	13A2	5600	3/5	49	13.5	18.2	10.5	12.3*	13	
Goat Mountain	12B7	7000	2/25	36	9.4	13.2	7.2	8.8	23	
Hell Roaring Div.	14A3	5700	3/7	86	27.1	27.2	18.8	30.4*	7	
Holbrook	13B13	4530	2/27	27	6.7	10.6	9.8	10.0*	6	
Kishenehn #3	14A2	4300	2/26	40	10.0	8.1	5.6	-	3	
Logan Creek	14A5	4300	3/6	36	8.9	11.2	6.1	8.5*	10	
Marias Pass	13A5	5250	2/27	57	17.2	20.8	11.2	15.6	23	
Mineral Creek	13A16	4500	3/3	55	18.3	-	-	-	0	
N. Fork Jocko	13B7	6330	3/1	95	35.6	43.9	30.3	35.9*	16	
Spotted Bear Mt.	13B2	7000	2/28	40	12.0	15.0	9.7	16.9*	9	
Strawberry Lake	13A10	6500	3/1	99	33.7	36.0	31.5	38.6*	6	
Trinkus Lake	13B1	6500	2/28	89	30.8	37.5	28.0	36.2*	7	
Trout Lake	13A12	3600	2/26	47	14.1	15.0	12.1	18.2*	9	
Twin Creeks	13B11	3580	2/27	33	10.3	11.1	8.5	11.7*	6	
Upper Holland	13B5	7000	3/1	81	27.2	32.5	23.8	31.8*	7	

\*Average is for less than 15 years of record in the 1938-52 period.



MONTANA SNOW SURVEYS - MARCH 1, 1957

COLUMBIA BASIN DRAINAGE BASIN AND SNOW COURSE	No.	Elev.	Date of Survey	SNOW COVER MEASUREMENTS					Total Years of Record	
				1957		Past Record				
				Snow Depth (In.)	Water Content (In.)	Water Content	15-Year Average			
				1956	1955	1938-52				
<u>UPPER CLARK FORK</u>										
Coyote Hill	13B10	4200	3/1	31	9.4	11.2	7.2	9.8*	10	
Chessman Res.	12C5	6200	2/28	8	2.1	5.4	2.7	4.3	21	
East Fork R. S.	13D1	5400	2/25	23	5.8	8.7	-	4.7*	6	
Eldorado Mine	13C9	7800	2/23	46	13.1	20.7	11.8	18.0*	4	
Fish Lake, Ida.	21B4	5000	2/28	94	33.6	-	33.6	37.3*	4	
Fred Burr Pass	13C11	8000	2/26	53	16.9	-	-	-	0	
Gold Creek Lake	13C10	7200	2/23	41	10.6	16.2	9.4	15.0*	4	
Intergaard	13C4	6450	3/1	24	6.5	8.0	4.2	6.2	21	
Lubrecht Forest #6	13C8	5400	3/1	11	3.1	6.2	2.9	4.9*	6	
N. Fork Jocko	13B7	6330	3/1	95	35.6	43.9	30.3	35.9*	16	
Picnic Grounds	12C6	6500	3/1	14	3.9	5.6	2.2	4.2*	12	
Pipestone Pass	12D1	7200	3/1	16	3.6	5.9	3.2	4.2	19	
Slide Rock Mt.	13C2	7100	3/4	37	9.7	-	-	11.8*	2	
Southern Cross	13C5	6500	3/1	19	5.8	6.0	4.6	4.6	21	
Stemple Pass	12C1	6900	3/4	32	8.1	10.4	5.5	8.4	23	
Storm Lake #2	13C7	7780	2/22	35	9.0	15.8	7.7	11.7#	4	
Stuart Mill	13C6	6500	3/1	18	5.4	6.6	3.8	5.2	21	
Stuart Mt. #1	13C1	7400	3/1	76	27.2	-	-	24.2*	14	
Tenmile, Lower	12C2	6250	3/3	18	4.9	7.5	5.0	5.9	22	
Tenmile, Middle	12C3	6800	3/2	28	6.8	7.5	7.4	8.6	23	
Tenmile, Upper	12C4	8000	3/2	33	9.9	14.0	9.7	11.2	22	
TV Mountain	14B1	6800	2/24	48	13.6	20.7	-	-	1	
**49 Meadows	15B3	5000	2/27	73	27.8	39.0	-	29.8*	16	
**Lookout	15B2	5250	2/28	85	30.3	-	22.8	30.7	31	
<u>BITTERROOT</u>										
East Fork R. S.	13D1	5400	2/25	23	5.8	8.7	-	4.7*	6	
Gibbons Pass	13D2	7100	2/28	68	20.9	27.2	14.2	20.4	23	
Lolo Pass	14C5	5230	2/25	83	29.1	-	-	-		
Nezperce Pass	14D1	6575	2/26	43	12.4	19.8	13.4	15.3*	18	
Nezperce Camp	14D2	5580	2/26	44	11.4	18.9	11.9	11.1*	17	
Stuart Mt. #1	13C1	7400	3/1	76	27.2	-	-	24.2*	14	
**Moose Creek	13D16	6200	2/27	49	13.9	19.4	11.3	14.5*	19	
**Powell R. S.	14C6	4230	2/26	43	14.3	-	-	-		
**Packers Meadow	14C2	5700	2/25	61	21.1	30.0	-	-	1	

\*Average is for less than 15 years of record in the 1938-52 period.

\*\*Adjacent Basin

#Average for period of record.



STATUS OF RESERVOIR STORAGE  
MISSOURI RIVER IN MONTANA  
March, 1957

BASIN & STREAM	RESERVOIR	USABLE CAPACITY 1000's AF	THOUSAND ACRE FEET IN STORAGE ABOUT MARCH FIRST			15-Yr.Avg. 1938-52
			1957	1956	1955	
<u>MISSOURI RIVER BASIN</u>						
Beaverhead	Lima	84.00	6.46	25.63	12.24	37.93*
Ruby River	Ruby	38.85	-	-	-	-
Madison River	Hebgen Lake	345.00	158.10	176.20	182.60	226.81
Madison River	Ennis Lake	41.00	38.39	29.89	38.05	33.32
Hyalite Creek	Middle Creek	8.03	3.11	3.67	5.19	4.90*
Missouri River	Canyon Ferry	2,043.00	1,488.00	1,582.00	1,177.00	-
Missouri River	Hauser & Helena	62.50	62.54	49.79	63.75	41.83*
Missouri River	Lake Helena	10.45	10.45	6.21	10.89	5.23*
Missouri River	Holter Lake	81.92	78.84	44.44	77.21	53.24
N.Fk. Sun River	Gibson	105.00	39.63	74.59	68.98	64.27
N.Fk. Sun River	Willow Creek	32.30	23.42	28.18	25.32	13.68
N.Fk. Sun River	Pishkun	32.00	16.47	16.25	19.16	15.50
Tiber	Marias	1,316.00	628.00	37.30	-	-
Birch Creek	Swift	30.00	23.68	24.56	29.12	21.88
Dupuyer & Birch	Lake Francis	112.00	89.96	91.72	95.83	74.37
Judith River	Ackley Lake	5.82	-	4.15	4.58	4.25
Missouri River	Ft. Peck	19,000.00	5,397.00	4,990.00	9,326.00	10,518.33
Milk River	Fresno	127.20	75.06	93.52	76.24	75.06
Milk River	Nelson	66.80	51.44	38.46	47.48	29.00
W. Rosebud Cr.	Mystic Lake	20.80	6.01	4.12	3.90	6.27
Red Lodge Cr.	Cooney	27.50	-	-	-	12.80*
Tongue River	Tongue River	73.90	-	-	10.76	18.11*
Swiftcurrent Cr.	Sherburne Lake	66.10	18.23	22.76	19.99	21.50
<u>MISSOURI RIVER BASIN - WYOMING</u>						
Shoshone River	Buffalo Bill	440.00	128.2	117.2	133.8	252.8
Wind River	Boysen	408.60	220.0	2.5	268.7	-
Wind River	Pilot Butte	31.6	14.3	23.3	26.4	17.11
Bull Creek	Bull Lake	152.00	67.8	55.3	62.2	53.84*
Belle Fourche	Key Hole	190.00	12.8	20.8	-	-
<u>MISSOURI RIVER BASIN - NORTH DAKOTA</u>						
Heart River	Heart Butte	54.80	43.7	68.4	56.8	68.3*
Heart River	Dickerson	4.30	3.2	5.4	4.3	5.70*
Missouri River	Garrison Lake	13,805.00	535.2	1,457.0	547.7	-
<u>MISSOURI RIVER BASIN - SOUTH DAKOTA</u>						
Belle Fourche	Belle Fourche	185.00	37.0	98.8	-	-
Cheyenne River	Angostura	160.00	-	78.4	-	-
Cheyenne River	Deerfield	15.1	8.2	10.6	-	-
Grand River	Shadehill	84.00	75.4	84.4	-	-
Missouri River	Ft. Randall	2,401.60	-	1,586.5	-	-

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STATUS OF RESERVOIR STORAGE  
COLUMBIA RIVER IN MONTANA  
March, 1957

BASIN & STREAM	RESERVOIR	USABLE CAPACITY 1000's AF	THOUSAND ACRE FEET IN STORAGE ABOUT MARCH FIRST			15-Yr.Avg. 1938-52
			1957	1956	1955	
<u>COLUMBIA RIVER BASIN</u>						
Flint Creek	Georgetown Lk	31.00	19.5	19.16	20.14	21.84
S.Fk. Flathead <u>5/</u>	Hungry Horse	3,500.00	1,802.0	2,084.00	2,155.00	1,211.5*
Flathead River	Flathead Lake	1,791.00	849.8	871.4	709.8	595.7
Flathead River <u>6/</u>	Camas Res.	42.80	19.8	37.58	39.54	19.68*
Flathead River <u>7/</u>	Mission Valley	98.60	35.4	29.24	57.17	40.22*
Jocko Creek	Lower Jocko Lk.	7.6			Snowbound	

5/ 4-year average

6/ Camas Reservoirs are shown as a sum of (4) small reservoirs on the west side of Flathead Lake located on Dry Creek and Little Bitterroot River.

7/ Mission Valley Reservoirs are shown as a sum of (8) small reservoirs located south and east of Flathead Lake. Both Camas and Mission Valley reservoirs are operated by the Indian Irrigation Service.

\* Average is for less than 15 years of record in the 1938-52 period.





Federal - State - Private  
COOPERATIVE SNOW SURVEYS

Furnishes the basic data  
necessary for forecasting  
water supply for irrigation,  
domestic and municipal water  
supply, hydro-electric power  
generation, navigation,  
mining and industry

"WATER IS THE WEST'S GREATEST RESOURCE"